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09/859,640

05/18/2001

Rafi Rabipour

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02/24/2005

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 CANADA

EXAMINER

FLANDERS, ANDREW C

ART UNIT

PAPER NUMBER

2644

DATE MAILED: 02/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/859,640

Applicant(s)

RABIPOUR ET AL.

Examiner

Andrew C Flanders

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 May 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 May 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claim 1, 2, 4, 5, 7, 13, 14, 16, 17, 27, 28, 30, 31 and 40 are rejected under 35 U.S.C. 102(b) as being anticipated by Meyers (U.S. Patent 5,715,372).

3. Regarding Claim 1, Meyers discloses a method for measuring at least one signal characteristic (col. 2 lines 30 – 31), a possible characteristic being voice quality (col. 2 lines 41 – 42) a signal characteristic measurement system 10 is depicted according to one embodiment of the present invention. Signal measurement system 10 comprises two principal sub-systems, feature extraction system 20 and intelligent system 30. In feature extraction system 20, a feature set is derived from an input signal. A feature set is a group of signal parameters which characterize an input signal with respect to the signal attribute to be measured by system 10. The feature set extracted from the input signal is sent from feature extraction system 20 to intelligent system 30 and intelligent system 30 is trained in the relationship between feature sets and corresponding signal characteristics. Intelligent system 30 operates on the extracted feature set to produce an output signal which characterizes the input signal for the attribute being measured. (col. 2 lines 64 – 67 and col. 3 lines 1 – 14) and the invention can be employed in

communications networks to dynamically control network parameter to yield improved voice quality (col. 7 lines 57 – 60).

4. Regarding Claims 2, 14 and 28, in addition to the elements stated above regarding claims 1, 13 and 27, Meyers further discloses a feature set that is a group of signal parameters which characterize an input signal with respect to the signal attribute to be measured by system 10 (col. 3 lines 1 – 14).

5. Regarding Claims 4, 17 and 31, in addition to the elements stated above regarding claims 1, 13 and 27, Meyers further discloses the invention can be employed in communications networks to dynamically control network parameter to yield improved voice quality (col. 7 lines 57 – 60). (i.e. wherein the communications link (*network*) comprises a plurality of components, said method comprising sending a control signal to the plurality of components in the communications link to cause the communication link to acquire the selected setting).

6. Regarding Claims 5, 16 and 30, in addition to the elements stated above regarding claims 1, 13 and 27, Meyers further discloses a feature extraction system that derives a feature set from an input signal (col. 3 lines 1 – 3) (i.e. deriving measurement of a certain characteristic of an audio signal for respective operative settings, the certain characteristic characterizing at least in part audio quality), an intelligent system that operates on the extracted feature set to produce an output signal which characterizes the input signal for the attribute being measured (col. 3 lines 10 – 13) and the invention can be employed in communications networks to dynamically control network parameter

to yield improved voice quality (col. 7 lines 57 – 60) (i.e. comparing the measurement derived in a) to select an operative setting).

7. Regarding Claims 7, 19 and 33, in addition to the elements stated above regarding claims 1, 16 and 30, Meyers further discloses a feature extraction system that derives a feature set from an input signal (col. 3 lines 1 – 3) (i.e. deriving measurement for a set of characteristics of an audio signal for respective operative settings, each characteristic in the set of characteristics characterizing at least in part audio quality under a given operative setting), an intelligent system that operates on the extracted feature set to produce an output signal which characterizes the input signal for the attribute being measured (col. 3 lines 10 – 13) and the invention can be employed in communications networks to dynamically control network parameter to yield improved voice quality (col. 7 lines 57 – 60) (i.e. comparing the measurement derived in a) to select an operative setting).

8. Regarding Claims 13, 25 and 40, they are interpreted and thus rejected for the same reasons as set forth above in claim 1. Since claims 13, 25 and 40 disclose an apparatus, which corresponds to, the method of claim 1; the apparatuses are interpreted as simply providing functionality for the structure of claim 1.

10. Regarding Claim 27, it is interpreted and thus rejected for the same reasons as set forth above in claim 1. Since claim 27 discloses a computer readable medium, which corresponds to, the method of claim 1; the computer readable medium is interpreted as simply providing functionality for the structure of claim 1.

Claim Rejections - 35 USC § 103

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11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 3, 6, 8, 15, 18, 20, 29 and 232 are rejected under 35 U.S.C. 103(a) as being unpatentable over Meyers (U.S. Patent 5,715,372).

13. Regarding Claims 3, 15 and 29, in addition to the elements stated above regarding claims 1, 13 and 27, Meyers further discloses a feature set that is a group of signal parameters which characterize an input signal with respect to the signal attribute to be measured by system 10 (col. 3 lines 1 – 14). Meyers does not disclose using estimation to derive the quality of the input signal. However, using estimation is an obvious implementation choice to one of ordinary skill in the art at the time of the invention. One of ordinary skill in the art would have been motivated to estimate the quality in order to save on processing time and thus create a system that would be further suited to operate in real time.

14. Regarding Claims 6, 8, 18, 20, 26, 32 and 34, in addition to the elements stated above regarding claims 5, 7, 16, 19, 25, 31 and 33, Meyers discloses extracting a feature set from an input signal (col. 3 lines 1 – 3). Meyers does not specifically disclose the feature set as being on of a measure of echo, measure of delay, the signal level, or a measure of the information loss and noise. However, Examiner maintains that it was well known at the time of the invention to measure these audio characteristics. It would have been obvious to one of ordinary skill in the art to use

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these various well known measurements as Meyers feature set in order to further assist Meyers invention in controlling network parameters, as discloses in col. 7 lines 57 – 60.

15. Claims 9, 21, 35 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Meyers (U.S. Patent 5,715,372) in view of Pon (U.S. Patent 7,68,308).

16. Regarding Claims 9, 21 and 35, in addition to the elements stated above regarding claims 1, 13 and 27, Meyers further discloses the invention can be employed in communications networks to dynamically control network parameter to yield improved voice quality (col. 7 lines 57 – 60). Meyers does not specifically disclose a communications link capable of acquiring two operative settings, namely a bypass setting and an active setting, when in the bypass setting the communications link transmitting an audio signal substantially unaltered, when in the active setting the communications link transmitting an audio signal subsequent to at least one processing operation on the audio signal. Pon discloses a diagram illustrating a mobile-to-mobile connection over two digital speech processors at the switch side of a network (fig. 1) (i.e. when in the active setting the communications link transmitting an audio signal subsequent to at least one processing operation on the audio signal) and a diagram illustrating a mobile to mobile connection with the codec by-pass feature activate (fig. 2) (i.e. when in the bypass setting the communications link transmitting an audio signal substantially unaltered). It would have been obvious to one of ordinary skill in the art at the time of the invention to control a network as Pon discloses with Meyers network

control in order to enhance end-to-end audio signal quality as well as improving system performance (col. 1 lines 60 – 61).

17. Regarding Claim 39, in addition to the reasoning set forth regarding claim 1, Meyers does not disclose selectively enabling tandem-free operation. However, Pon discloses a diagram illustrating a mobile to mobile connection with the codec by-pass feature activate (fig. 2) (i.e. selectively enabling tandem-free operation). Motivation to combine these elements is given above regarding claims 9, 21 and 35

18. Claims 10 – 12, 22 - 24 and 36 - 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Meyers (U.S. Patent 5,715,372) in view of Pon (U.S. Patent 7,68,308) and in further view of Fitzgerald (U.S. Patent 6,466,548).

19. Regarding Claims 10, 22 and 36, in addition to the elements stated above regarding claims 9, 21 and 35 Fitzgerald discloses sending audio packets hop by hop to different routers in a network and comparing the results of adjacent hop by hop loopbacks and adjusting the capacity of a network as necessary according to the measured transmission delay, for example, telephone calls may be rerouted around the problem subsystem (col. 2 lines 20 – 42) (i.e. providing a data element indicative of a measure of effectiveness associated with the at least one processing operation on the audio signal and selecting a setting at least in part on the basis of the measure of effectiveness of the at least one processing information). It would have been obvious to one of ordinary skill in the art at the time of the invention to use Fitzgerald's quality of service measurement on the Meyers and Pon combination in order to further improve network performance via the control disclosed by Meyers and Pon. It would have been

desirable to improve network performance in order to maintain a reasonable level of transmission for a phone conversation so as to allow the persons to understand one another. See Fitzgerald col. 1 and 2 lines 1 – 17.

20. Regarding Claims 11, 23 and 37, in addition to the elements stated above regarding claims 10, 22 and 36, Fitzgerald discloses measuring delay to reroute telephone calls (col. 2 lines 20 – 42) (i.e. wherein said measure of effectiveness is used to assess a degree of improvement in audio quality over an audio quality associated with the bypass setting).

21. Regarding Claims 12, 24 and 38, in addition to the elements stated above regarding claims 11, 23 and 37, Fitzgerald discloses measuring delay to reroute telephone calls (col. 2 lines 20 – 42) (i.e. said method comprising selecting the active setting when the measure of effectiveness is above a certain threshold of effectiveness).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Randic (U.S. 6,275,797), Mirashrafi (U.S. 6,304,637), Will (U.S. 6,728,672), Chu (U.S. 6,766,291), and Kirby (U.K. 2 226 718 A).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew C Flanders whose telephone number is (703) 305-0381. The examiner can normally be reached on M-F 8:30 - 5:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh Tran can be reached on (703) 305-4040. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



SINH TRAN
SUPERVISORY PATENT EXAMINER

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